

**EMC TEST REPORT**

for

Guangzhou Huikang Electronic Technology Co., Ltd.

Tourmaline & Jade stone far infrared ray sauna blanket

Model No.: S-103A, S-103

Prepared for : Guangzhou Huikang Electronic Technology Co., Ltd.  
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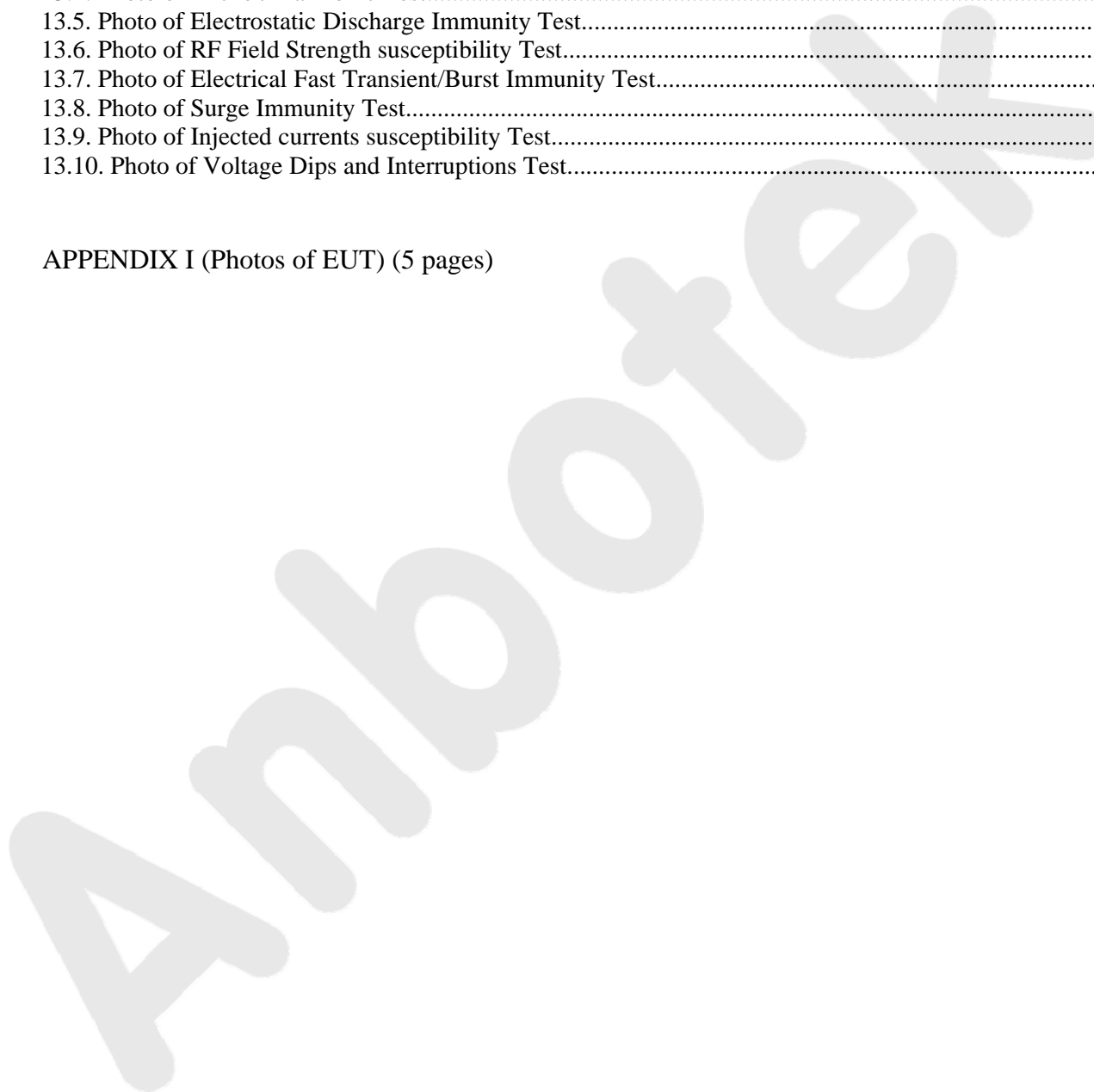
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APPENDIX I (Photos of EUT) (5 pages)



### TEST REPORT VERIFICATION

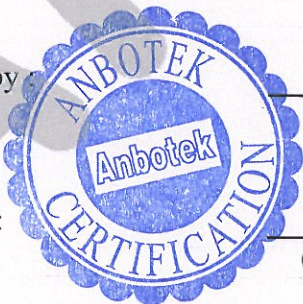
Applicant : Guangzhou Huikang Electronic Technology Co., Ltd.  
Manufacturer: Guangzhou Huikang Electronic Technology Co., Ltd.  
EUT : Tourmaline & Jade stone far infrared ray sauna blanket  
Model No. : S-103A, S-103  
Serial No. : N.A.  
Rating : AC 220-240V, 50/60Hz, 600W  
Trade Mark : Huikang

Test Procedure Used:  
EN 55014-1: 2006+A1: 2009+A2: 2011;  
EN 61000-3-2: 2014;  
EN 61000-3-3: 2013;  
EN 55014-2: 2015  
(IEC 61000-4-2; IEC 61000-4-3; IEC 61000-4-4;  
IEC 61000-4-5; IEC 61000-4-6; IEC 61000-4-11)

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report shows the EUT to be technically compliant with the EN 55014-1, EN 61000-3-2, EN 61000-3-3 and EN 55014-2 requirements. The test results are contained in this report and Shenzhen Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these tests. The Project in IEC 61000-4-3 was tested in Shenzhen EMTEK Co., Ltd.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited

Date of Test : Oct. 21~Nov. 03, 2016

Prepared by:  Baron Wen  
(Engineer/ Baron Wen)

Reviewer : Oliay Yang  
(Project Manager/ Oliay Yang)

Approve & Authorized Signer : Tom Chen  
(Manager/ Tom Chen)



## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT	:	Tourmaline & Jade stone far infrared ray sauna blanket
		S-103A, S-103
Model Number	:	(Note: All samples are the same except the model number & appearance, so we prepare “S-103A” for EMC test only.)
Test Power Supply	:	AC 230V, 50Hz
Applicant	:	Guangzhou Huikang Electronic Technology Co., Ltd.
Address	:	No.6, Dongnan Road, Milong Village, Taihe Town, Baiyun District, Guangzhou, China
Manufacturer	:	Guangzhou Huikang Electronic Technology Co., Ltd.
Address	:	No.6, Dongnan Road, Milong Village, Taihe Town, Baiyun District, Guangzhou, China
Factory	:	Guangzhou Huikang Electronic Technology Co., Ltd.
Address	:	No.6, Dongnan Road, Milong Village, Taihe Town, Baiyun District, Guangzhou, China
Date of receipt	:	Oct. 21, 2016
Date of Test	:	Oct. 21~Nov. 03, 2016

## 1.2. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

### **FCC-Registration No.: 752021**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 06, 2016.

### **IC-Registration No.: 8058A-1**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, Jun. 13, 2016.

### **CNAS – LAB Code: L3503**

Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing Laboratories.

### **Test Location**

All Emissions tests were performed  
Shenzhen Anbotek Compliance Laboratory Limited. At 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

## 1.3. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1dB (Horizontal) Ur = 4.3dB (Vertical)
Conduction Uncertainty	:	Uc =3.4 dB
Disturbance Uncertainty	:	Ud = 2.6 dB

### 1.4. Test Summary

For the EUT described above. The standards used were EN 55014-1 for Emissions & EN 55014-2 for Immunity.

Table1: Tests Carried Out Under EN 55014-1: 2006+A1: 2009+A2: 2011

Standard	Test Items	Status
EN 55014-1: 2006+A1: 2009+A2: 2011	Power Line Conducted Emission Test (150kHz To 30MHz)	√
EN 55014-1: 2006+A1: 2009+A2: 2011	Clicks Test	x
EN 55014-1: 2006+A1: 2009+A2: 2011	Disturbance Power Test (30MHz To 300MHz)	√
EN 55014-1: 2006+A1: 2009+A2: 2011	Radiated Emission Test (30MHz To 1000MHz)	√

Table 2: Tests Carried Out Under EN 61000-3-2: 2014 And EN 61000-3-3: 2013

Standard	Test Items	Status
EN 61000-3-2: 2014	Harmonic Current Test	x
EN 61000-3-3: 2013	Voltage Fluctuations and Flicker Test	√

Table 3 : Tests Carried Out Under EN 55014-2: 2015

Standard	Test Items	Status
EN 55014-2: 2015	Electrostatic Discharge Immunity Test	√
EN 55014-2: 2015	RF Field Strength Susceptibility Test	√
EN 55014-2: 2015	Electrical Fast Transient/Burst Immunity Test	√
EN 55014-2: 2015	Surge Immunity Test	√
EN 55014-2: 2015	Injected Currents Susceptibility Test	√
EN 55014-2: 2015	Voltage Dips and Interruptions Test	√

- √ Indicates that the test is applicable
- x Indicates that the test is not applicable



### 1.5. EMS Performance Criteria

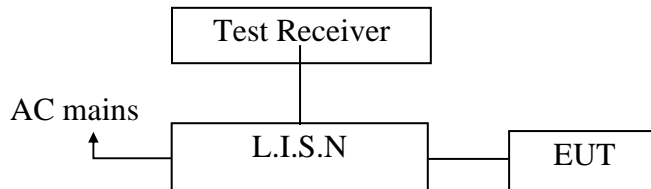
- √ A: Normal performance within the specification limits
- √ B: Temporary degradation or loss of function or performance which is self-recoverable
- √ C: Temporary degradation or loss of function or performance which requires operator intervention or system reset
- √ D: Degradation or loss of function which is not recoverable due to damage of equipment (components) or software, or loss of data

Note: The manufacturer's specification may define effects on the EUT which may be considered insignificant, and therefore acceptable.

This classification may be used as a guide in formulating performance criteria, by committees responsible for generic, product and product-family standards, or as a framework for the agreement on performance criteria between the manufacturer and the purchaser, for example where no suitable generic, product or product-family standard exists.

## 2. POWER LINE CONDUCTED EMISSION TEST

### 2.1. Block Diagram of Test Setup



### 2.2. Measuring Standard

EN 55014-1: 2006+A1: 2009+A2: 2011

### 2.3. Power Line Conducted Emission Limits

Frequency (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66.0 ~ 56.0 *	59.0 ~ 46.0 *
0.50 ~ 5.00	56.0	46.0
5.00 ~ 30.00	60.0	50.0

NOTE1-The lower limit shall apply at the transition frequencies.  
NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

### 2.4. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55014-1 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

### 2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT as shown on section 2.1.
- 2.5.2. Turn on the power of all equipments.
- 2.5.3. Let the EUT work in measuring mode (ON) and measure it.

### 2.6. Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network(L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN55014-1 regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in

150kHz~30MHz.

The frequency range from 150kHz to 30MHz is investigated for AC mains.

The test results are listed in Section 2.8.

## 2.7. Test Equipment

The following test equipments are used during the power line conducted emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Apr. 16, 2016	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 16, 2016	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 16, 2016	1 Year

## 2.8. Measuring Results

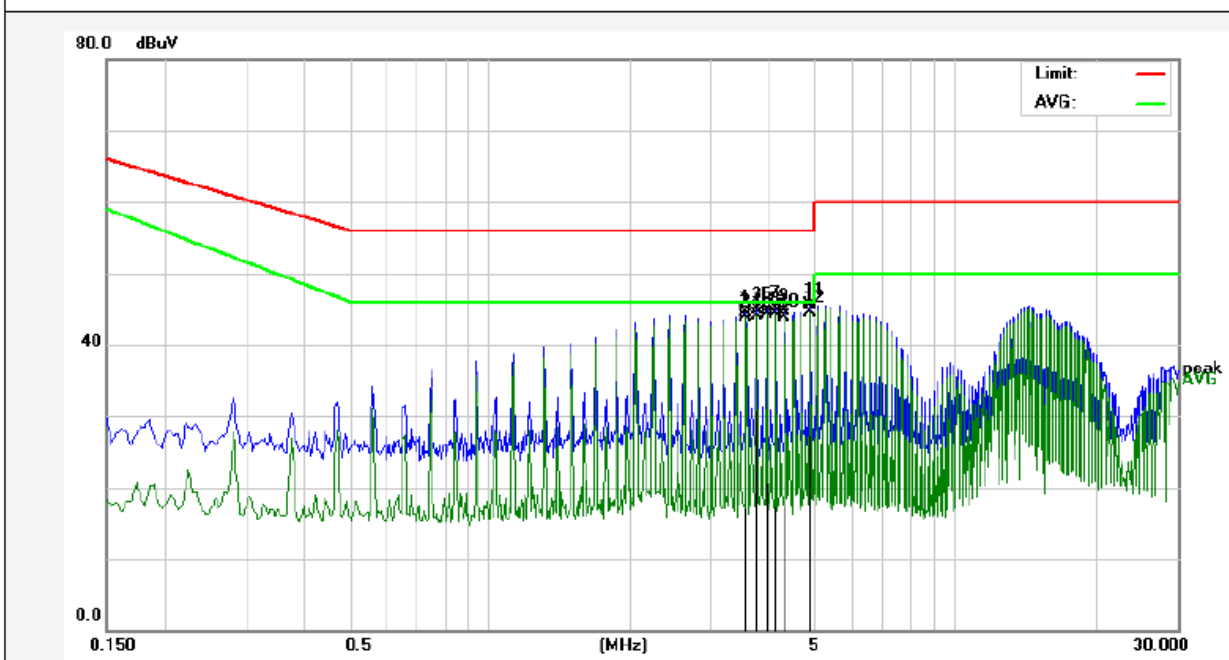
**PASS**

The frequency range 150kHz to 30MHz is investigated

Test data see the following pages.

**CONDUCTED EMISSION TEST DATA**

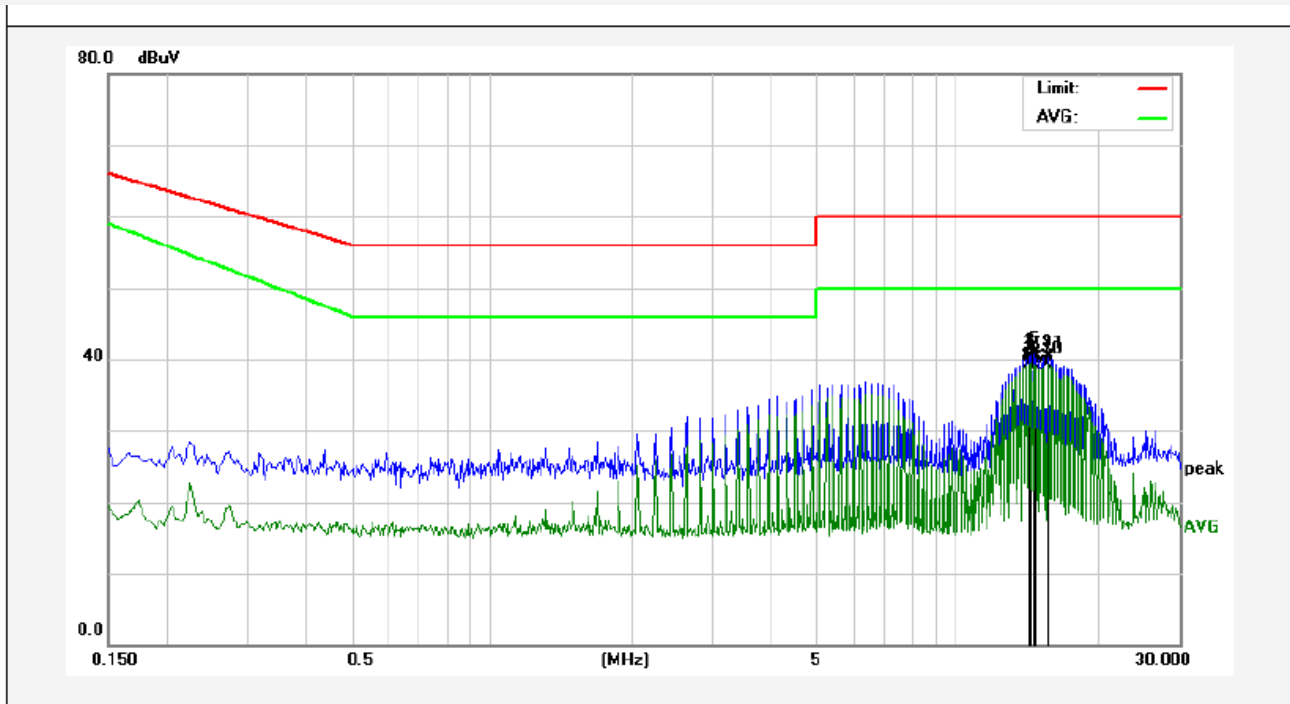
Test Site: 1# Shielded Room  
 Operating Condition: On  
 Test Specification: AC 230V, 50Hz  
 Comment: L  
 Temp.:22.2°C Hum.:60%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	3.5620	24.56	20.00	44.56	56.00	-11.44	QP	
2	3.5620	23.91	20.00	43.91	46.00	-2.09	AVG	
3	3.7500	24.95	20.00	44.95	56.00	-11.05	QP	
4	3.7500	24.09	20.00	44.09	46.00	-1.91	AVG	
5	3.9380	24.87	20.00	44.87	56.00	-11.13	QP	
6	3.9380	24.28	20.00	44.28	46.00	-1.72	AVG	
7	4.1259	25.02	20.00	45.02	56.00	-10.98	QP	
8	4.1259	24.25	20.00	44.25	46.00	-1.75	AVG	
9	4.3139	24.74	20.00	44.74	56.00	-11.26	QP	
10	4.3139	23.98	20.00	43.98	46.00	-2.02	AVG	
11	4.8739	25.52	20.00	45.52	56.00	-10.48	QP	
12	4.8739	24.53	20.00	44.53	46.00	-1.47	AVG	

**CONDUCTED EMISSION TEST DATA**

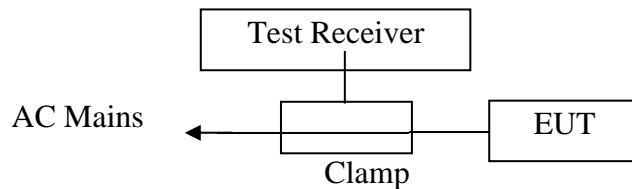
Test Site: 1# Shielded Room  
 Operating Condition: On  
 Test Specification: AC 230V, 50Hz  
 Comment: N  
 Temp.:22.2°C Hum.:60%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	14.2500	20.34	20.00	40.34	60.00	-19.66	QP	
2	14.2500	19.26	20.00	39.26	50.00	-10.74	AVG	
3	14.4380	20.49	20.00	40.49	60.00	-19.51	QP	
4	14.4380	19.44	20.00	39.44	50.00	-10.56	AVG	
5	14.6260	20.67	20.00	40.67	60.00	-19.33	QP	
6	14.6260	19.35	20.00	39.35	50.00	-10.65	AVG	
7	14.8140	20.09	20.00	40.09	60.00	-19.91	QP	
8	14.8140	19.17	20.00	39.17	50.00	-10.83	AVG	
9	15.5620	20.23	20.00	40.23	60.00	-19.77	QP	
10	15.5620	19.30	20.00	39.30	50.00	-10.70	AVG	
11	15.7500	20.09	20.00	40.09	60.00	-19.91	QP	

### 3. DISTURBANCE POWER TEST

#### 3.1. Block Diagram of Test Setup



#### 3.2. Measuring Standard

EN 55014-1: 2006+A1: 2009+A2: 2011

#### 3.3. Disturbance Power Limits

All emanations from an EN 55014-1 devices or system including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

Frequency MHz	Limits dB(pW)	
	Quasi-peak Value	Average Value
30 ~ 300	45 Increasing Linearly with Frequency to 55	35 Increasing Linearly with Frequency to 45

#### 3.4. EUT Configuration on Measurement

The EN 55014-1 Regulations test method must be used to find the maximum emission during disturbance power measurement. The configuration of the EUT is the same as used in conducted emission measurement.

#### 3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT and simulators as shown in Section 3.1.
- 3.5.2. Turn on the power of all equipments.
- 3.5.3. Let the EUT work in test mode (On) and test it.

#### 3.6. Test Procedure

The EUT is placed on the ground and away from other metallic surface at least 0.8m. It is connected to the power mains through an extension cord of 6m min. The absorber



clamp clamps the cord and moves from the far end to the EUT to measure the disturbing energy emitted from the cord.

The bandwidth of the test receiver(R&S ESCI) is set at 120kHz.

All the test results are listed in Section 3.8.

### 3.7. Test Equipment

The following test equipments are used during the disturbance power measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Absorbing Clamp	FCC	F-201-23M M	08166	Apr. 16, 2016	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 16, 2016	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 16, 2016	1 Year

### 3.8. Disturbance Power Test Results

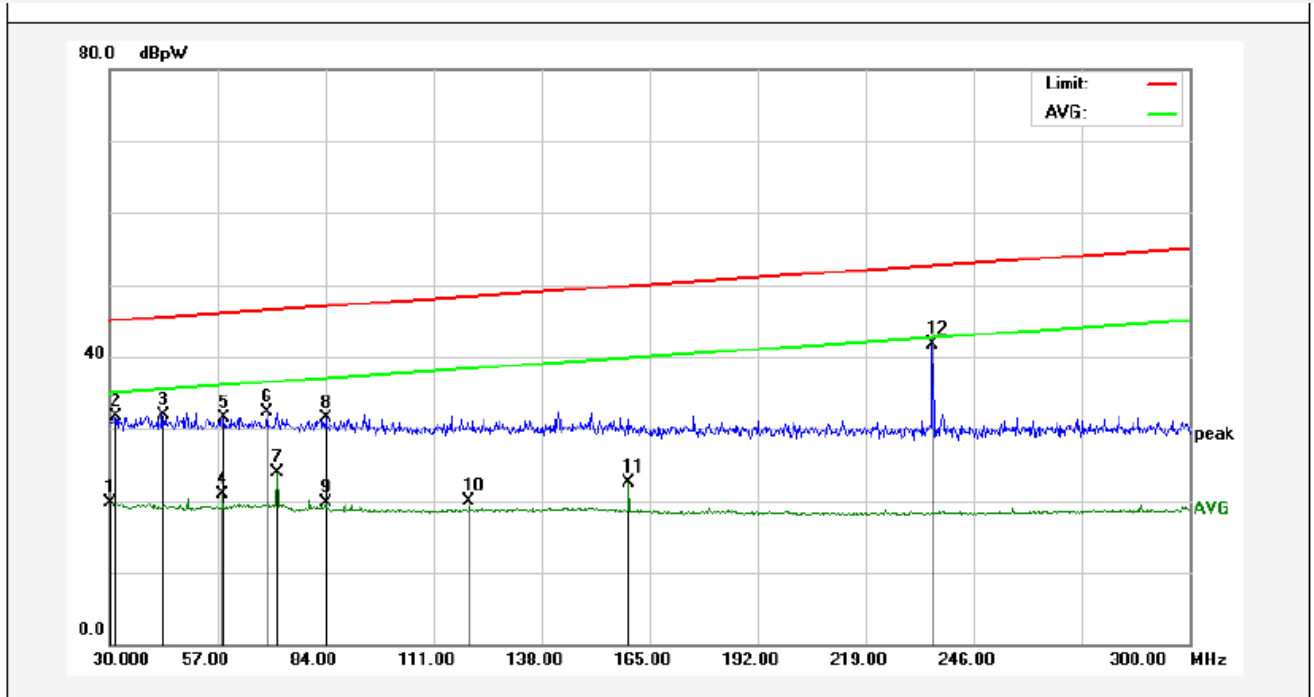
**PASS**

The frequency spectrum from 30 MHz to 300 MHz is investigated.

Test data see the following page.

**Power Clamp Test**

Test Site: 1# Shielded Room  
 Operating Condition: On  
 Test Specification: AC 230V, 50Hz  
 Comment: AC LINE  
 Temp.:22.2°C Hum.:60%

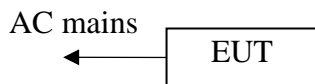


No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit (dBpW)	Over Limit (dB)	Detector	Remark
1	30.0000	-0.21	20.00	19.79	35.00	-15.21	AVG	
2	31.5200	31.73	0.00	31.73	45.06	-13.33	QP	
3	43.4000	31.85	0.00	31.85	45.50	-13.65	QP	
4	58.4400	20.84	0.00	20.84	36.05	-15.21	AVG	
5	58.6400	31.41	0.00	31.41	46.06	-14.65	QP	
6	69.5600	32.30	0.00	32.30	46.47	-14.17	QP	
7	72.0000	23.94	0.00	23.94	36.56	-12.62	AVG	
8	84.0000	31.58	0.00	31.58	47.00	-15.42	QP	
9	84.0000	19.77	0.00	19.77	37.00	-17.23	AVG	
10	120.0000	19.89	0.00	19.89	38.33	-18.44	AVG	
11	160.0000	22.45	0.00	22.45	39.81	-17.36	AVG	
12	235.6800	41.65	0.00	41.65	52.62	-10.97	QP	

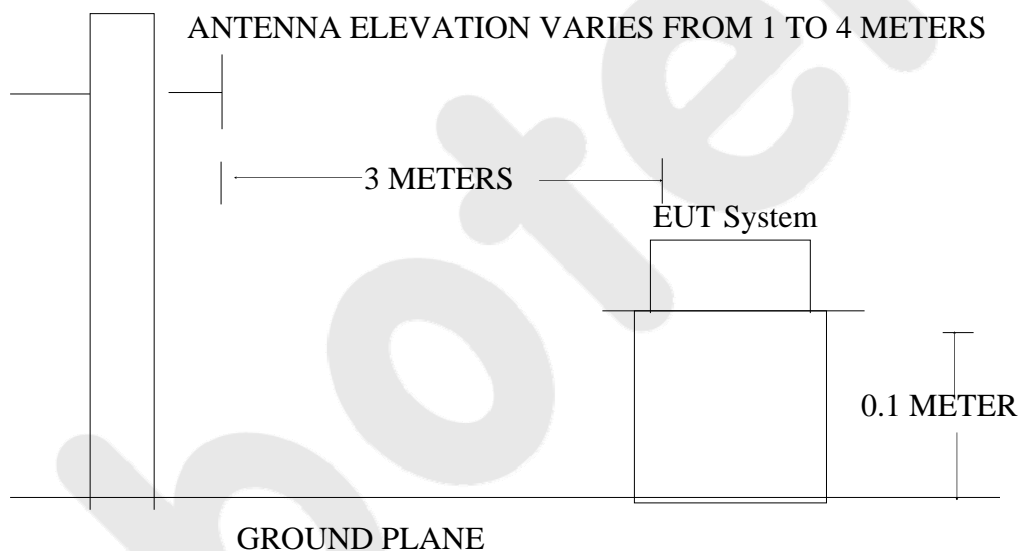
## 4. RADIATED EMISSION TEST

### 4.1. Block Diagram of Test

#### 4.1.1. Block diagram of connection between the EUT and simulators



#### 4.1.2. Block diagram of test setup (In chamber)



### 4.2. Measuring Standard

EN 55014-1: 2006+A1: 2009+A2: 2011

### 4.3. Radiated Emission Limits

4.3.1. EN 55014-1: 2006+A1: 2009+A2: 2011

#### Radiated Emission Limits

All emanations from a device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dB $\mu$ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

- Note:
- (1) The smaller limit shall apply at the combination point between two frequency bands.
  - (2) Distance refers to the distance in meters between the measuring

instrument antenna and the closed point of any part of the EUT.

#### 4.4. EUT Configuration on Test

The EN 55014-1 regulations test method must be used to find the maximum emission during radiated emission measurement.

#### 4.5. Operating Condition of EUT

4.5.1. Turn on the power.

4.5.2. Let the EUT work in test mode (On) and measure it.

#### 4.6. Test Procedure

The EUT is placed on a turn table which is 0.1 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in 9\*6\*6 Chamber.

The test results are listed in Section 4.8.

#### 4.7. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 16, 2016	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 19, 2016	1 Year
3.	Pre-amplifier	SONOMA	310N	186860	Apr. 16, 2016	1 Year

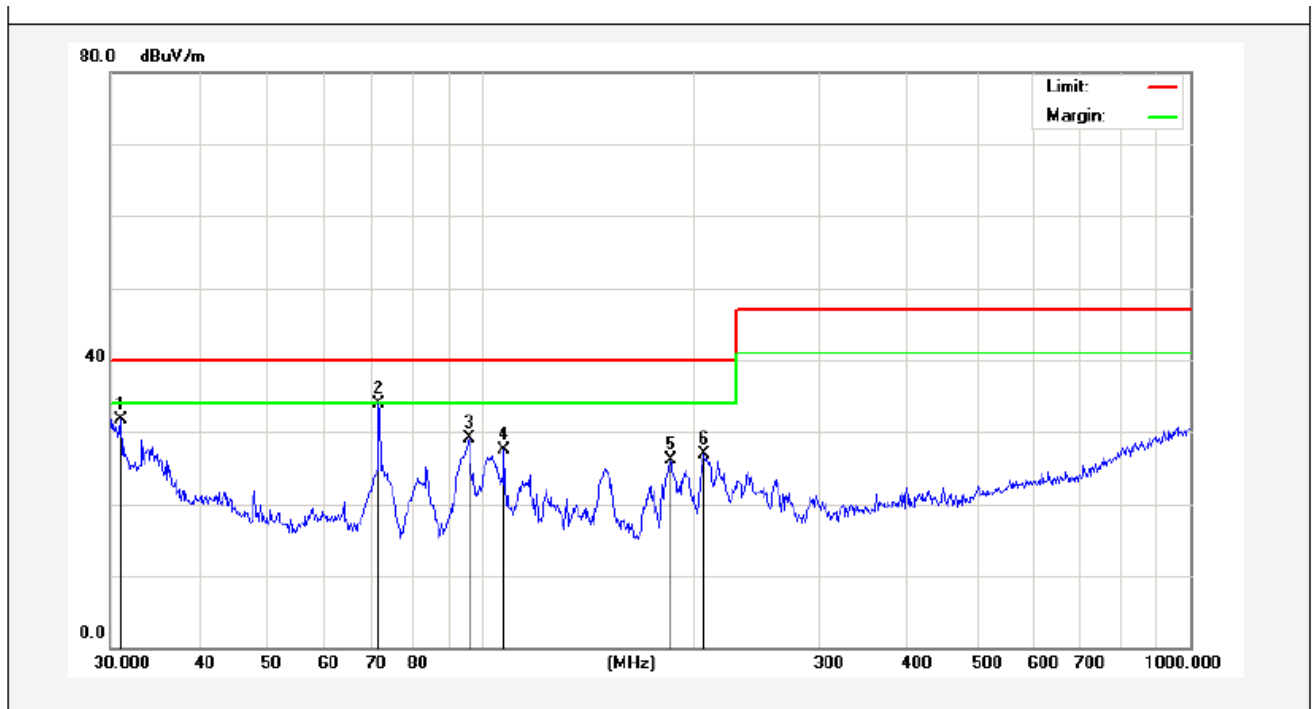
#### 4.8. Measuring Results

**PASS**

The frequency range from 30MHz to 1000MHz is investigated.

The test curves are shown in the following pages.

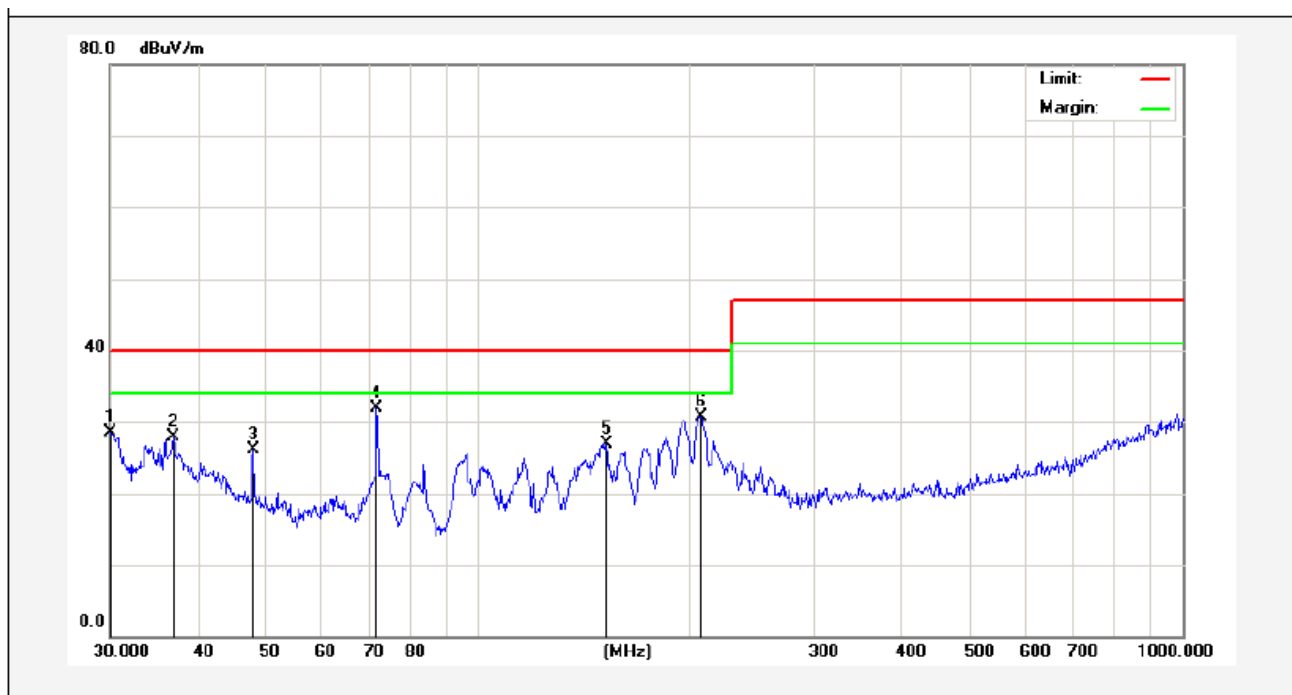
<b>Job No.:</b>	<b>AT011610354E</b>	<b>Polarization:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)EN55014-1_3m</b>	<b>Power Source:</b>	<b>AC 230V, 50Hz</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Temp.(°C)/Hum.(%RH):</b>	<b>24.3( °C)/55%RH</b>
<b>Note:</b>	<b>On</b>	<b>Distance:</b>	<b>3m</b>



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	31.0706	48.17	-16.38	31.79	40.00	-8.21	peak			
2	71.8320	53.96	-19.98	33.98	40.00	-6.02	peak			
3	96.0986	50.02	-20.97	29.05	40.00	-10.95	peak			
4	107.8877	48.17	-20.66	27.51	40.00	-12.49	peak			
5	185.1379	47.39	-21.37	26.02	40.00	-13.98	peak			
6	206.3976	47.45	-20.63	26.82	40.00	-13.18	peak			



Job No.:	AT011610354E	Polarization:	Vertical
Standard:	(RE)EN55014-1_3m	Power Source:	AC 230V, 50Hz
Test item:	Radiation Test	Temp.(°C)/Hum.(%RH):	24.3( °C)/55%RH
Note:	On	Distance:	3m

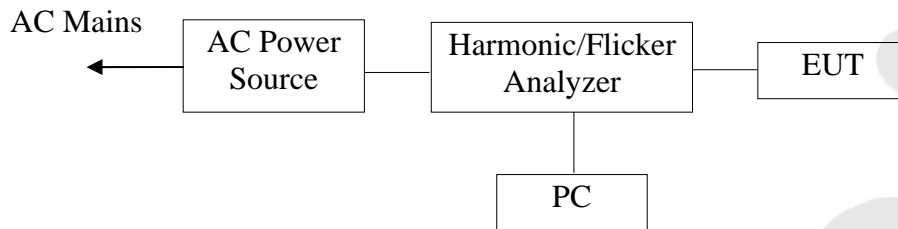


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.0000	45.36	-16.95	28.41	40.00	-11.59	peak			
2	36.8953	40.78	-12.79	27.99	40.00	-12.01	peak			
3	47.9940	39.80	-13.67	26.13	40.00	-13.87	peak			
4	71.8320	51.81	-19.98	31.83	40.00	-8.17	peak			
5	152.1297	45.12	-18.24	26.88	40.00	-13.12	peak			
6	207.1226	46.36	-15.60	30.76	40.00	-9.24	peak			



## 5. HARMONIC CURRENT EMISSION TEST

### 5.1. Block Diagram of Test Setup



### 5.2. Measuring Standard

EN 61000-3-2: 2014 Class A

### 5.3. Operating Condition of EUT

Same as Section 2.5 except the test setup replaced by Section 5.1.

### 5.4. Test Equipment

The following test equipments are used during the harmonic current emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Programmable AC Power source	SOPH POWER	PAG-1050	630250	Apr. 16, 2016	1 Year
2.	Harmonic and Flicker Analyzer	LAPLACE	AC2000A	272629	Apr. 19, 2016	1 Year

### 5.5. Measuring Results

**PASS**

The test curves are shown in the following page.

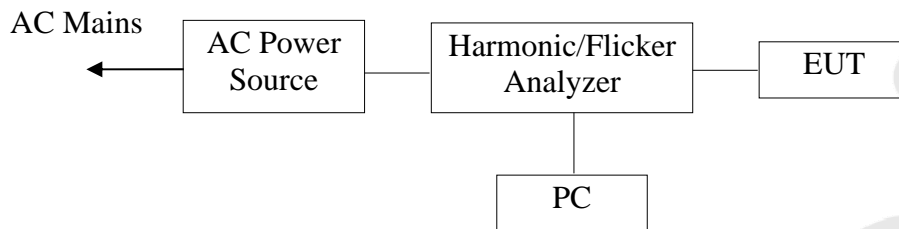
## HARMONIC CURRENT TEST RESULT SUMMARY (RUN TIME)

Tested On : Oct. 21, 2016 14:02 for 150 Seconds.  
 Supply Voltage : 229.4 Vrms 327.8 Vpk Frequency : 49.99 to 50.01 Hz  
 Supply Pass : Harmonic Requirements Crest Limits.  
 Load Power : 674.20 to 674.70 W 674.7 VA Power Factor 1.000  
 Load Current : 2.9 mArms 4.2 Apk Crest Factor: 1.426  
 Limits Applied : EN61000-3-2: 2014 Class A Limits Apply.

Harmonic Number	Limit Current mA	Average (filtered) mA	% Limit	max. Value (Filtered) mA	% Limit	Assessment
Fundamental :		2941.8				
2 :	1080.0	6.2	0.6	6.4	0.6	Pass
3 :	2300.0	29.0	1.3	30.2	1.3	Pass
4 :	430.0	4.4	1.0	4.4	1.0	Pass
5 :	1140.0	15.7	1.4	16.1	1.4	Pass
6 :	300.0	4.1	1.4	4.1	1.4	Pass
7 :	770.0	6.2	0.8	6.2	0.8	Pass
8 :	230.0	3.3	1.4	3.4	1.5	Pass
9 :	400.0	4.5	1.1	4.6	1.1	Pass
10 :	184.0	2.8	1.5	2.8	1.5	Pass
11 :	330.0	3.7	1.1	3.9	1.2	Pass
12 :	153.3	2.2	1.4	2.3	1.5	Pass
13 :	210.0	2.0	1.0	2.1	1.0	Pass
14 :	131.4	1.5	1.1	1.6	1.2	Pass
15 :	150.0	1.2	0.8	1.2	0.8	Pass
16 :	115.0	1.1	1.0	1.0	0.9	Pass
17 :	132.3	0.9	0.7	0.8	0.6	Pass
18 :	102.2	0.7	0.7	0.7	0.7	Pass
19 :	118.4	0.8	0.7	0.8	0.7	Pass
20 :	92.0	0.5	0.5	0.5	0.5	Pass
21 :	107.1	1.0	0.9	1.0	0.9	Pass
22 :	83.6	0.4	0.5	0.3	0.4	Pass
23 :	97.8	0.3	0.3	0.3	0.3	Pass
24 :	76.7	0.4	0.5	0.3	0.4	Pass
25 :	90.0	0.9	1.0	0.8	0.9	Pass
26 :	70.8	0.2	0.3	0.1	0.1	Pass
27 :	83.3	1.1	1.3	1.0	1.2	Pass
28 :	65.7	0.3	0.5	0.3	0.5	Pass
29 :	77.6	0.2	0.3	0.1	0.1	Pass
30 :	61.3	0.2	0.3	0.1	0.2	Pass
31 :	72.6	0.3	0.4	0.3	0.4	Pass
32 :	57.5	0.2	0.3	0.1	0.2	Pass
33 :	68.2	0.5	0.7	0.5	0.7	Pass
34 :	54.1	0.2	0.4	0.1	0.2	Pass
35 :	64.3	0.4	0.6	0.3	0.5	Pass
36 :	51.1	0.2	0.4	0.1	0.2	Pass
37 :	60.8	0.7	1.2	0.7	1.2	Pass
38 :	48.4	0.2	0.4	0.1	0.2	Pass
39 :	57.7	0.7	1.2	0.7	1.2	Pass
40 :	46.0	0.1	0.2	0.1	0.2	Pass
21 - 39 :	251.4	2.1	0.8	2.1	0.8	Pass

## 6. VOLTAGE FLUCTUATIONS & FLICKER TEST

### 6.1. Block Diagram of Test Setup



### 6.2. Measuring Standard

EN 61000-3-3: 2013

### 6.3. Operating Condition of EUT

Same as Section 2.5 except the test setup replaced by Section 6.1.

### 6.4. Test Equipment

The following test equipments are used during the voltage fluctuations & flicker measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Programmable AC Power source	SOPH POWER	PAG-1050	630250	Apr. 16, 2016	1 Year
2.	Harmonic and Flicker Analyzer	LAPLACE	AC2000A	272629	Apr. 19, 2016	1 Year

### 6.5. Measuring Results

**PASS**

The test curves are shown in the following page.

**Flicker Test Summary per EN/IEC61000-3-3 (Run time)**

Tested On : Oct. 21, 2016 14:02 for 600 Seconds.

Supply Voltage : 229.2 to 229.4 Vrms 327.8 Vpk Frequency : 50.00 Hz  
Load Current : 3.0 mArms 4.2 Apk Crest Factor: 1.424

Test Method: EN61000-3-3: 2013

**Voltage Variations :**

Highest Level:	-0.19%	
Lowest Level:	-0.55%	
d(max):	0.35%	PASS
Highest d(t) of 500ms:	0.00%	PASS
Present d(t) over 3.33%:	0.00 Seconds	
Longest d(t) over 3.33%:	0.00 Seconds	
Highest Steady State:	-0.41%	
Lowest Steady State:	-0.40%	
Max d(c) Between Adjacent:	0.00%	PASS
Max d(c) Between Any:	0.00%	
Short Term Flicker Pst:	0.67	PASS

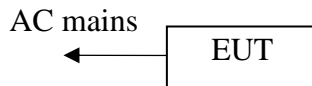
**Flicker Results :**

Pst Classifier	Pst	Plt Calculation Interval	Pst
Duration 0.1%	7.97		
0.7%	4.38		
1.0%	3.13		
1.5%	1.97		
2.2%	0.94		
3%	0.41		
4%	0.16		
6%	0.00		
8%	0.00		
10%	0.00		
13%	0.00		
17%	0.00		
30%	0.00		
50%	0.00		
80%	0.00		

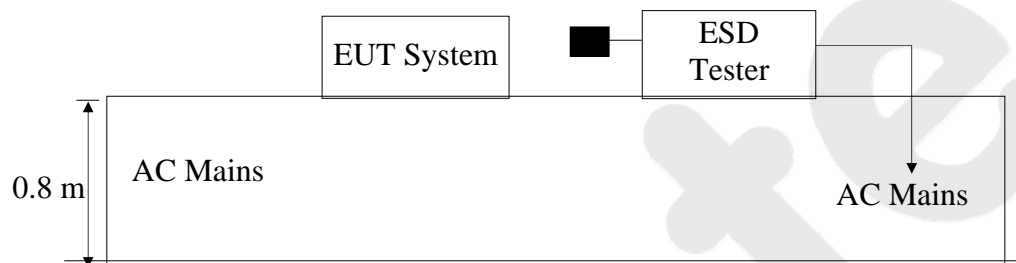
## 7. ELECTROSTATIC DISCHARGE IMMUNITY TEST

### 7.1. Block Diagram of Test Setup

#### 7.1.1. Block diagram of connection between the EUT



#### 7.1.2. Block diagram of Electrostatic Discharge test setup



### 7.2. Measuring Standard

EN 55014-2: 2015 ( IEC 61000-4-2 )

Severity Level: 3 / Air Discharge:  $\pm 8\text{kV}$  Level: 2 / Contact Discharge:  $\pm 4\text{kV}$

### 7.3. Severity Levels and Performance Criterion

#### 7.3.1. Severity level

Level	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1.	$\pm 2$	$\pm 2$
2.	$\pm 4$	$\pm 4$
3.	$\pm 6$	$\pm 8$
4.	$\pm 8$	$\pm 15$
X	Special	Special

#### 7.3.2. Performance criterion : B

### 7.4. EUT Configuration

The following equipments are installed on Electrostatic Discharge immunity Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

## 7.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5, except the test set up replaced by Section 7.1.

## 7.6. Test Procedure

### 7.6.1. Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 100 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

### 7.6.2. Contact Discharge

All the procedure shall be same as Section 7.6.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

### 7.6.3. Indirect discharge for horizontal coupling plane

At least 50 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

### 7.6.4. Indirect discharge for vertical coupling plane

At least 50 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

## 7.7. Test Equipment

The following test equipments are used during the electrostatic discharge immunity measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Simulators	3ctest	ESD-30T	ES0131505	Jun. 20, 2016	1 Year

## 7.8. Measuring Results

**PASS**

Please refer to the following page.



## Electrostatic Discharge Test Results

Shenzhen Anbotek Compliance Laboratory Limited

Test Mode: On	Temperature : 22°C
Air discharge : ±8.0kV	Humidity : 58%
Contact discharge: ±4.0kV	Criterion required : B
Power Supply: AC 230V, 50Hz	Number of discharging : 10

Test Result:  Pass  Fail

Location	Kind	Result
	A-Air Discharge C-Contact Discharge	
Slot of the EUT	10 points A	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Others	10 points A	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Metal surface of EUT	8 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
HCP	4 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
VCP of front	4 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
VCP of rear	4 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
VCP of left	4 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
VCP of right	4 points C	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

Note: Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

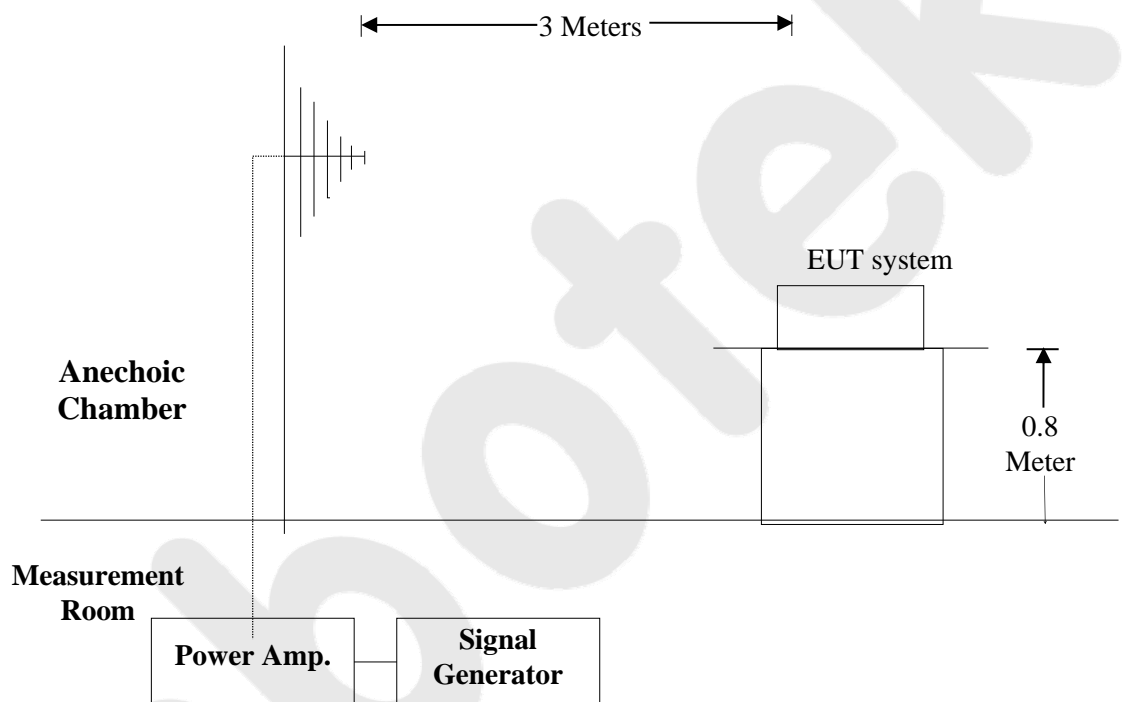
## 8. RF FIELD STRENGTH SUSCEPTIBILITY TEST

### 8.1. Block Diagram of Test

#### 8.1.1. Block diagram of connection between the EUT and simulators



#### 8.1.2. Block diagram of RS test setup



### 8.2. Measuring Standard

EN 55014-2: 2015 Category IV

IEC 61000-4-3

Severity: EN 55014-2: 2015 Category IV, Level: 2, 3V / m

### 8.3. Severity Levels and Performance Criterion

#### 8.3.1. Severity Levels

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

#### 8.3.2. Performance Criterion: A

### 8.4. EUT Configuration on Test

The following equipments are installed on RF Field Strength susceptibility

Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

### 8.5. Operating Condition of EUT

Same as radiated emission measurement which is listed in Section 2.5. except the test setup replaced as Section 8.1.

### 8.6. Test Procedure

The EUT are placed on a table which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera is used to monitor its screen.

All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	3V/m
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80~1000 MHz
4. Sweep time of radiated	0.0015 Decade/s
2. Dwell Time	1 Sec.

### 8.7. Test Equipment

The following test equipments are used during the RF Field Strength susceptibility measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	RF Power Meter. Dual Channel	BOONTON	4232A	10539	May 29, 2016	1 year
2.	50ohm Diode Power Sensor	BOONTON	51011EMC	34236/34238	May 29, 2016	1 year
3.	Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120 L3F	332	May 29, 2016	1 year
4.	Power Amplifier	PRANA	AP32MT215	N/A	May 29, 2016	1 year
5.	Power Amplifier	MILMEGA	AS0102-55	N/A	May 29, 2016	1 year
6.	Signal Generator	AEROFLEX	2023B	N/A	May 29, 2016	1 year
7.	Field Strength Meter	HOLADAY	HI-6005	N/A	May 29, 2016	1 year
8.	RS232 Fiber Optic Modem	HOLADAY	HI-4413P	N/A	May 29, 2016	1 year
9.	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	N/A	May 29, 2016	1 year

### 8.8. Measuring Results

**PASS**

Please refer to the following page.

## RF Field Strength Susceptibility Test Results

Shenzhen Anbotek Compliance Laboratory Limited

Test Mode : On	Temperature : 25°C
Field Strength : 3 V/m	Humidity : 54%
Criterion : A	Frequency Range: 80.0 MHz to 1000 MHz
Power Supply : AC 230V, 50Hz	Criterion required : A

Test Result :  Pass  Fail

Modulation: <input type="checkbox"/> None <input type="checkbox"/> Pulse <input checked="" type="checkbox"/> AM 1kHz 80%			
		Frequency Rang 1: 3 V/m	
Steps	#	/	%
	Horizontal	Vertical	Result
Front	3 V/m	3 V/m	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Right	3 V/m	3 V/m	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Rear	3 V/m	3 V/m	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Left	3 V/m	3 V/m	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

Note: Tested by EMTEK.

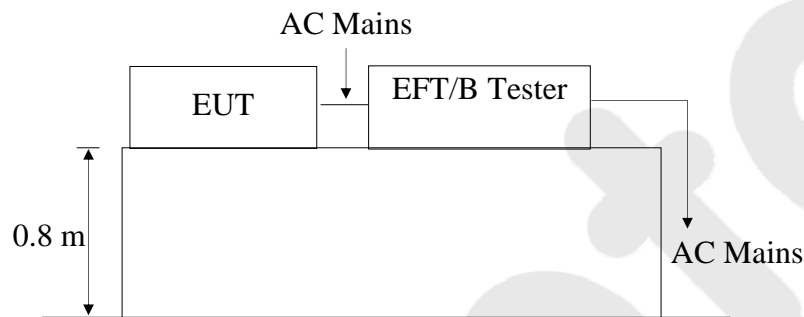
## 9. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

### 9.1. Block Diagram of Test Setup

#### 9.1.1. Block diagram of connection between the EUT and simulators



#### 9.1.2. EFT Test Setup



### 9.2. Measuring Standard

EN 55014-2: 2015  
IEC 61000-4-4  
Severity Level, Level 2: 1kV

### 9.3. Severity Levels and Performance Criterion

#### 9.3.1. Severity level

Open Circuit Output Test Voltage $\pm 10\%$		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1.	0.5 kV	0.25 kV
2.	1 kV	0.5 kV
3.	2 kV	1 kV
4.	4 kV	2 kV
X	Special	Special

#### 9.3.2. Performance criterion: **B**

### 9.4. EUT Configuration

The following equipments are installed on Electrical Fast Transient/Burst Immunity Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

## 9.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5, except the test set up replaced by Section 9.1.

## 9.6. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

### 9.6.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

### 9.6.2. For signal lines and control lines ports:

No I/O ports. It's unnecessary to test.

### 9.6.3. For DC output line ports:

It's unnecessary to test.

## 9.7. Test Equipment

The following test equipments are used during the electrical fast transient/burst immunity measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EFT Burst Simulator	PRIMA	EFT61004B	PR10114 282	Apr. 16, 2016	1 Year
2.	EFT-Clamp	PRIMA	EFT-Clamp	/	Apr. 16, 2016	1 Year

## 9.8. Measuring Results

**PASS**

Please refer to the following page.

## Electrical Fast Transient/Burst Test Results

Shenzhen Anbotek Compliance Laboratory Limited

Operation Mode: On		Criterion : <b>B</b>	
Power Supply : AC 230V, 50Hz		Test Result : <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Ambient Condition :		<u>24°C</u>	<u>55% RH</u>
Inject Line : AC Mains	Inject Method: Direct	Inject Time(s): 120	
Line	Polarity	Test Voltage	Result
L	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
N	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
PE	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
L-N	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
L-PE	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
N-PE	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
L-N-PE	±	1kV	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Signal Line			
DC Line			
Note :			
Remark:			



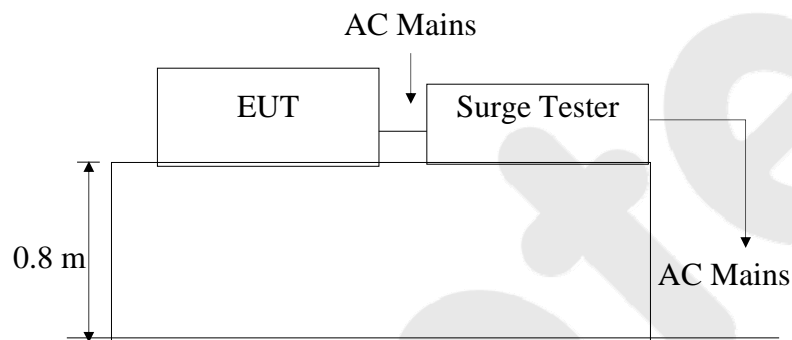
## 10. SURGE IMMUNITY TEST

### 10.1. Block Diagram of Test Setup

#### 10.1.1. Block diagram of connection between the EUT and simulators



#### 10.1.2. Surge Test Setup



### 10.2. Measuring Standard

EN 55014-2: 2015

IEC 61000-4-5

Severity Level: Level 2, Line to Line: 1.0kV; Level 3, Line to Earth: 2.0kV

### 10.3. Severity Levels and Performance Criterion

#### 10.3.1. Severity level

Severity Level	Open-Circuit Test Voltage kV
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

#### 10.3.2. Performance criterion: **B**

### 10.4. EUT Configuration

The following equipments are installed on Surge immunity Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

### 10.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5, except the test set up replaced by Section 10.1.1.

### 10.6. Test Procedure

- 1) Set up the EUT and test generator as shown on Section 10.1.2.
- 2) For line to line coupling mode, provide a 1.0 kV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 3) For line to earth coupling mode, provide a 2.0 kV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 4) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 5) Different phase angles are done individually.
- 6) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

### 10.7. Test Equipment

The following test equipments are used during the surge immunity measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	6kV Surge Generator	EMPEK	LSG-5060G	06010017N	Apr. 17, 2016	1 Year
2.	CDN	EMPEK	CDN-5110G	06110005N	Apr. 17, 2016	1 Year

### 10.8. Measuring Results

**PASS**

Please refer to the following page.

## Surge Immunity Test Results

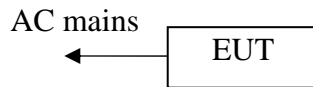
Shenzhen Anbotek Compliance Laboratory Limited

Test Mode: On			Temperature: 24°C		
Humidity: 55%			Criterion required: B		
Power Supply: AC 230V, 50Hz			Test Result : <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		
Location	Polarity	Phase Angle	Number of Pulse	Pulse Voltage (kV)	Result
L-N	±	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 180° <input checked="" type="checkbox"/> 270°	5	1.0	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
L-PE	±	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 180° <input checked="" type="checkbox"/> 270°	5	2.0	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
N-PE	±	<input checked="" type="checkbox"/> 0° <input checked="" type="checkbox"/> 90° <input checked="" type="checkbox"/> 180° <input checked="" type="checkbox"/> 270°	5	2.0	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Remark:					

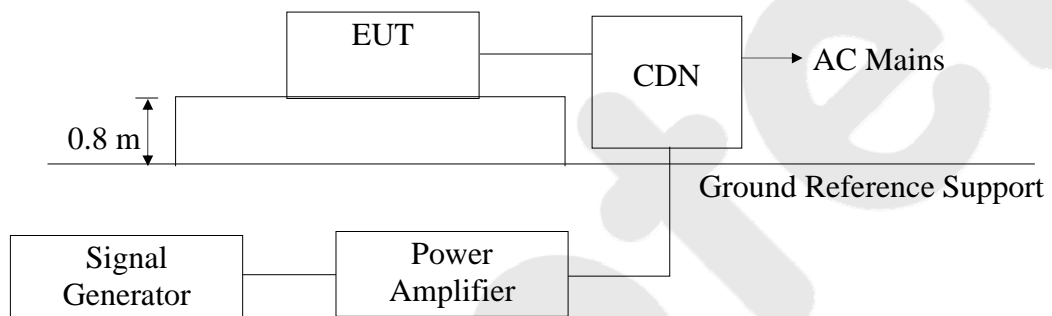
## 11. INJECTED CURRENTS SUSCEPTIBILITY TEST

### 11.1. Block Diagram of Test Setup

#### 11.1.1. Block diagram of connection between the EUT and simulators



#### 11.1.2. Block Diagram of Test Setup



### 11.2. Measuring Standard

EN 55014-2: 2015

IEC 61000-4-6, Severity Level: 3V (rms), (0.15MHz ~ 80MHz)

### 11.3. Severity Levels and Performance Criterion

#### 11.3.1. Severity level

Level	Field Strength V(rms)
1.	1
2.	3
3.	10
X	Special

11.3.2. Performance criterion: A

### 11.4. EUT Configuration

The following equipments are installed on currents susceptibility Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

## 11.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5, except the test set up replaced by Section 11.1.1.

## 11.6. Test Procedure

### 11.6.1. For AC Mains

- 1) Set up the EUT, CDN and test generators as shown on Section 11.1.2.
- 2) Let the EUT work in test mode and measure it.
- 3) The EUT are placed on an insulating support 0.8m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
- 4) The disturbance signal described below is injected to EUT through CDN.
- 5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 6) The frequency range is swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
- 7) The rate of sweep shall not exceed  $1.5 \times 10^{-3}$  decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
- 8) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

### 11.6.2. For signal lines and control lines ports:

No I/O ports. It's unnecessary to test.

### 11.6.3. For DC output line ports:

It's unnecessary to test.

## 11.7. Test Equipment

The following test equipments are used during the Injected currents susceptibility measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	C/S Conducted Immunity Test System	FRANKONIA	CIT-10	126A1196/2012	Apr. 16, 2016	1 Year
2.	CDN	FRANKONIA	CDN - M2+ M3	A2210178/2012	Apr. 16, 2016	1 Year
3.	6dB attenuator	FRANKONIA	DAM 26W	1172202	Apr. 16, 2016	1 Year

## 11.8. Measuring Results

**PASS**

Please refer to the following page.

## Injected Currents Susceptibility Test Results

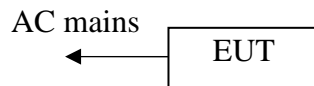
Shenzhen Anbotek Compliance Laboratory Limited

Test Mode : On		Temperature : 24°C	
Power Supply : AC 230V, 50Hz		Humidity : 53%	
Criterion required: A		Test Result : <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Result
0.15 ~ 80	AC Mains	3V	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
Test Mode :			
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Result
Remark :		Note:	

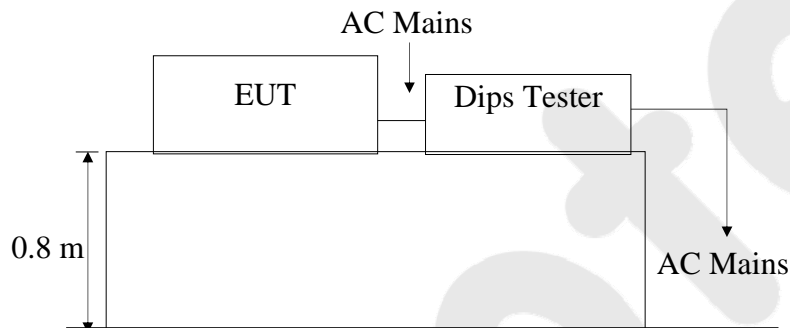
## 12. VOLTAGE DIPS AND INTERRUPTIONS TEST

### 12.1. Block Diagram of Test Setup

#### 12.1.1. Block diagram of connection between the EUT and simulators



#### 12.1.2. Dips Test Setup



### 12.2. Measuring Standard

EN 55014-2: 2015  
IEC 61000-4-11

### 12.3. Severity Levels and Performance Criterion

#### 12.3.1. Severity level

Test Level %U <sub>T</sub>	Voltage dip and short interruptions %U <sub>T</sub>	Duration (in period)
0	100	0.5
40	60	1
		5
		10
70	30	25
0	100	50
		*

#### 12.3.2. Performance criterion: C

### 12.4. EUT Configuration

The following equipments are installed on Voltage dips and interruptions

Measurement to meet EN 55014-2 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

### 12.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5, except the test set up replaced by Section 12.1.1.

### 12.6. Test Procedure

- 1) Set up the EUT and test generator as shown on Section 12.1.2.
- 2) The interruptions is introduced at selected phase angles with specified duration.
- 3) Record any degradation of performance.

### 12.7. Test Equipment

The following test equipments are used during the voltage dips and interruptions measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	CYCLE SAG Simulator	PRIMA	DRP61011AG	PR12046234	Apr. 16, 2016	1 Year

### 12.8. Measuring Results

**PASS**

Please refer to the following page.



## Voltage Dips and Interruptions Test Results

Shenzhen Anbotek Compliance Laboratory Limited

Test Mode	: On	Temperature	: 24°C	Humidity	: 55%
Power Supply : AC 230V, 50Hz			Criterion required : C		
Test Result : <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail					
Test Level % U <sub>T</sub>	Voltage Dips & Short Interruptions % U <sub>T</sub>	Duration (in periods)	Result		
0	100	0.5P	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D		
60	40	10P	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D		
70	30	25P	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D		
Test Mode :					
Test Level % U <sub>T</sub>	Voltage Dips & Short Interruptions % U <sub>T</sub>	Duration (in periods)	Criterion <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	Result P=PASS F=Fail	
Remark:					

## 13. PHOTOGRAPHS

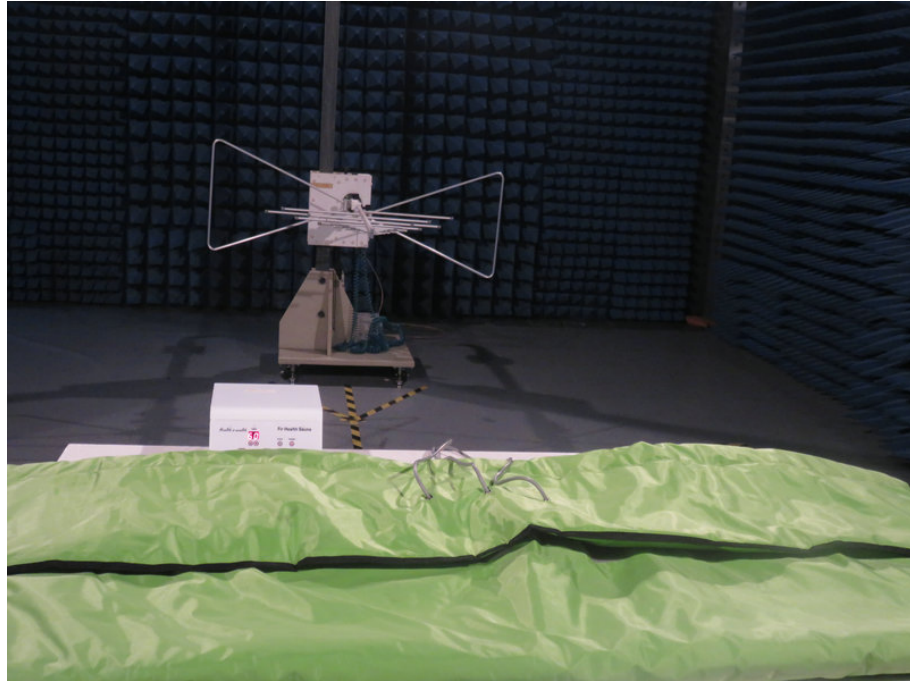
### 13.1. Photo of Power Line Conducted Emission Test



### 13.2. Photo of Disturbance Power Test



13.3. Photo of Radiated Emission Test



13.4. Photo of Flicker/ Harmonic Test



13.5. Photo of Electrostatic Discharge Immunity Test



13.6. Photo of RF Field Strength susceptibility Test

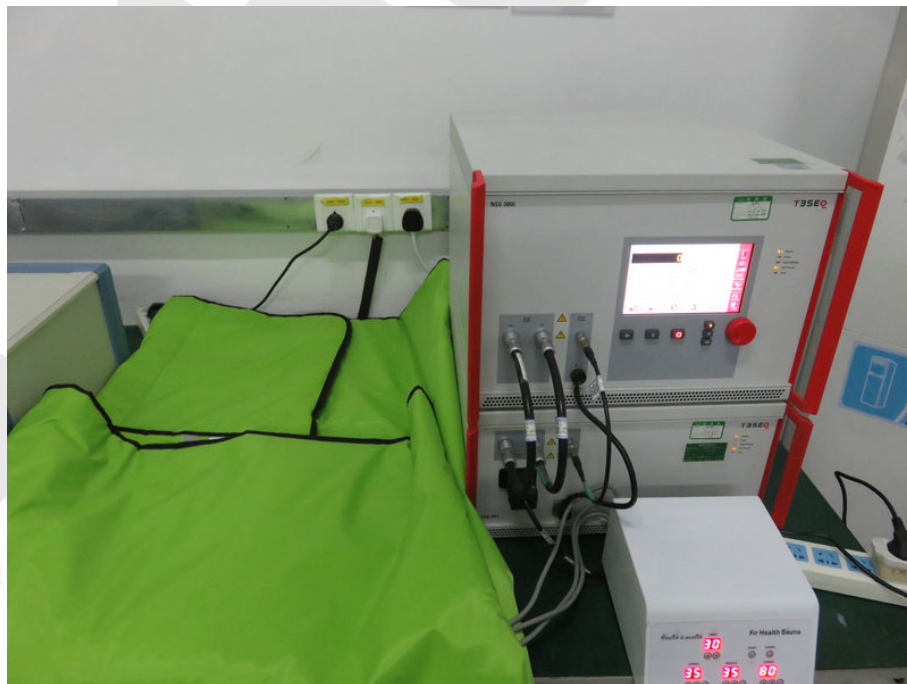




13.7. Photo of Electrical Fast Transient/Burst Immunity Test



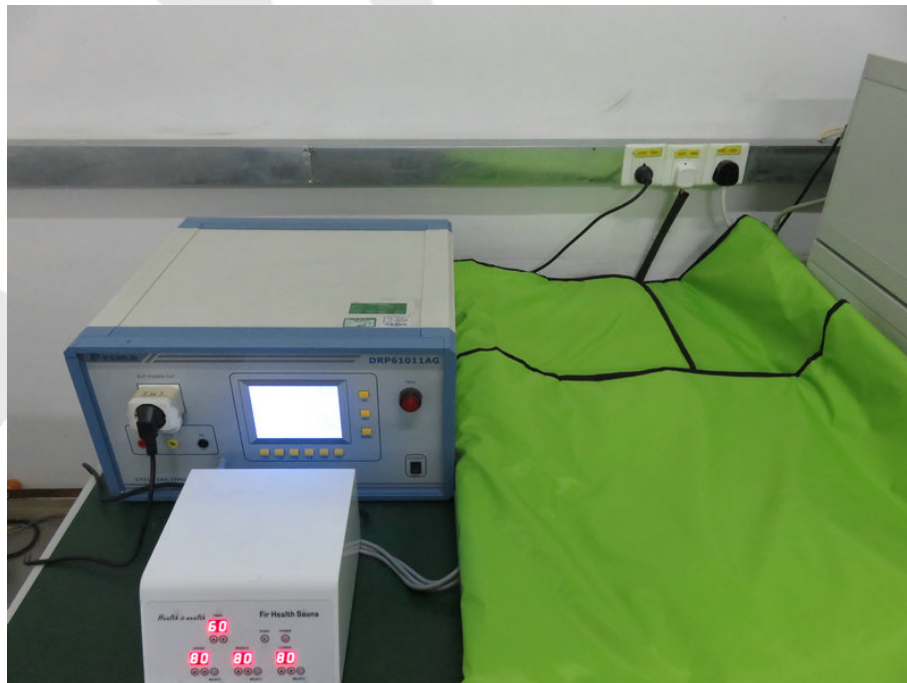
13.8. Photo of Surge Immunity Test



13.9. Photo of Injected currents susceptibility Test



13.10. Photo of Voltage Dips and Interruptions Test



**APPENDIX I**  
**(Photos of EUT)**

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Figure 1  
The EUT- Front View (Model: S-103A)



Figure 2  
The EUT- Back View (Model: S-103A)





Figure 3  
The EUT- Front View (Model: S-103A)



Figure 4  
The EUT- Partial View (Model: S-103A)



Figure 5  
The EUT- Inside View (Model: S-103A)

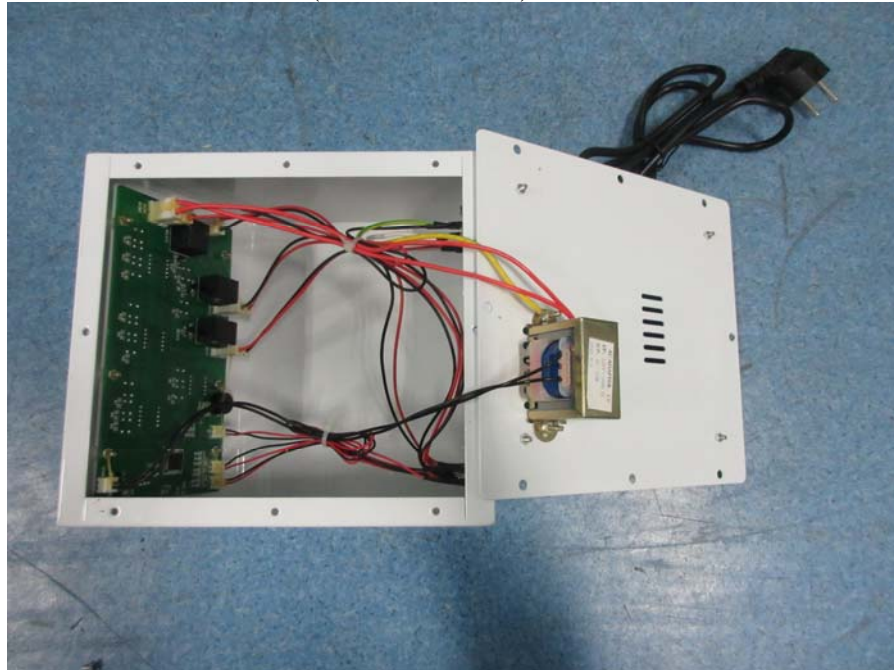


Figure 6  
The EUT- Inside View (Model: S-103A)



Figure 7  
The EUT- Inside View (Model: S-103A)



Figure 8  
The EUT- Inside View (Model: S-103A)

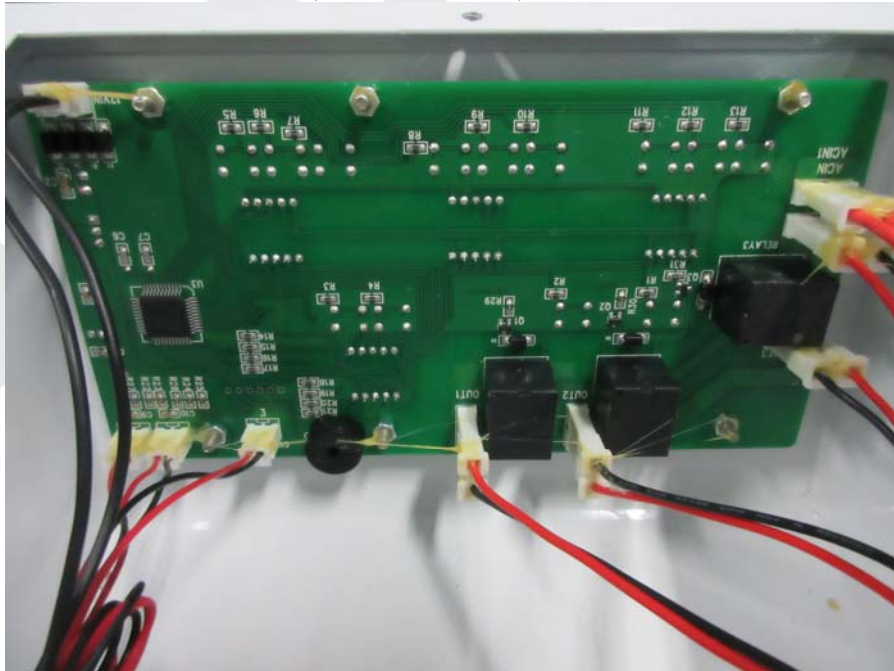




Figure 9  
The EUT- Front View (Model: S-103)



Figure 10  
The EUT- Back View (Model: S-103)



### **CE Label**

1. The CE conformity marking must consist of the initials 'CE' taking the following form:  
If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.  
It must have the same height as the initials 'CE'.

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